

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA725) Current Human Exposures Under Control

Facility Name: International Paper Company – Maintenance Area
Facility Address: 10 International Way, Longview, Washington
Facility EPA ID #: WAD 010745917

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

☒ **X** If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future. ☐

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **“contaminated”**¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>X</u>	___	___	See below
Air (indoors) ²	___	___	___	
Surface Soil (e.g., <2 ft)	___	___	___	
Surface Water	___	___	___	
Sediment	___	___	___	
Subsurf. Soil (e.g., >2 ft)	<u>X</u>	___	___	
Air (outdoors)	___	___	___	

___ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

___ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s): The former International Paper facility was located on the north side of the Columbia River, less than two miles downstream of the confluence of the Columbia and Cowlitz rivers. The former facility lies within the 100-year floodplain but is protected by control levees.

International Paper operated the former treated wood product (TWP) area from 1956 to 1983. Process water from the wood treatment activities was routed to two recovery ponds (Ponds 1 and 2). The TWP area, the site of the former wood treatment facility at the former southwestern corner of the International Paper facility, encompassed the retort building, associated structures (e.g., tanks, sheds, water treatment facilities, and the locations of former Ponds 1 and 2). Use of the recovery ponds was discontinued in 1983. Soil from the recovery ponds was excavated and disposed of in a permitted treatment, storage, and disposal facility in 1985. The former recovery ponds and adjacent areas were backfilled with clean soil and capped with an engineered cover in 1989.

Soil sampling and groundwater monitoring detected dissolved and/or free phase wood-treating constituent above MTCA cleanup levels. The constituents of concern (COCs) in soil and groundwater include pentachlorophenol, polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH). In a consent decree filed August 18, 1997, all contiguous areas associated with the TWP area, including several SWMUs, were determined to constitute one dangerous waste management unit. As part of a cleanup action, a low permeability soil-bentonite barrier wall was constructed around the TWP area in 1997. A low-permeability engineered cover was placed over the containment area to minimize surface water infiltration and to minimize potential contact with impacted soil in 1998. A bioventing/biosparging system and LNAPL recovery system were installed in the containment area. Imposition of a deed restriction has been delayed until the nature and extent of contamination outside of the containment system is determined.

Three areas of concern were identified during construction of the subsurface barrier wall in the fall of 1997. An investigation was performed near the former TWP area in July 1998 to assess soil conditions in the three identified areas. The results of that investigation indicated that soils in the area immediately to the west and

northwest of the barrier wall had detectable PAH and TPH compounds. The impacted soils were found the area between the former TWP area and the Port of Longview's maintenance facility. Groundwater samples from monitoring wells in this area contained TPH as diesel, pentachlorophenol, and PAH compounds.

Further investigation of the area along the north and west boundaries of the TWP area was postponed until an investigation of areas that historically ponded water on the Port of Longview's property. Those areas of historical impoundments were investigated in January 1999.

An investigation of the area to the north and west of the former TWP area was conducted in July 1999. Constituents of concern that exceeded MTCA residential soil cleanup levels included TPH as diesel, PAH compounds, and pentachlorophenol. Concentrations of total carcinogenic PAH compounds exceeded MTCA industrial soil cleanup levels in three locations. Concentrations of TPH as diesel exceeded MTCA residential groundwater cleanup levels in four borings. Additional sampling completed in February 2000 did not determine the extent of groundwater contamination in the area of the maintenance facility.

The area in the vicinity of the Port of Longview's maintenance facility is a log sortyard, covered with three feet of gravel fill and topped with asphalt. The immediate area around the maintenance facility is also paved with asphalt.

References:

- *Cleanup Action Plan, Former Treated Wood Products Area, International Paper Facility, Longview, Washington*; July 1997
- *Performance and Compliance Monitoring Plan, Former Treated Wood Products Area, International Paper Facility, Longview, Washington*; July 1997
- Letter from Howard Steeley (Department of Ecology) to RueAnn Thomas (International Paper), November 7, 1997; request for work plan to investigate visually-impacted soils encountered during construction of subsurface barrier wall
- *Investigation of Areas of Soil Impact Outside the Containment Area*; December 17, 1998
- *Offsite Investigation Work Plan, International Paper, Longview, Washington*; December 21, 1998
- *Additional Perimeter Boring Investigation Work Plan, International Paper, Longview, Washington*; July 16, 1999
- Draft *Additional Perimeter Boring Investigation Report and Maintenance Facility Work Plan, International Paper, Longview, Washington*; February 4, 2000
- Draft Report, *Soil and Groundwater Investigation of Eastern Area, International Paper, Longview, Washington*; February 7, 2000
- Draft Report, *Soil and Groundwater Investigation of Western Area, International Paper, Longview, Washington*; February 21, 2000
- Letter from RueAnn Thomas (International Paper) to Kaia Petersen (Department of Ecology); April 19, 2000; submittal of results from investigation near Port of Longview's maintenance facility in February 2000

Footnotes:

¹ "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile

contaminants) does not present unacceptable risks.

3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

<u>“Contaminated” Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	___	___	___	<u>X</u>			___
Air (indoors)	___	___	___				
Soil (surface, e.g., <2 ft)	___	___	___	___	___	___	___
Surface Water	___	___			___	___	___
Sediment	___	___			___	___	___
Soil (subsurface e.g., >2 ft)				<u>X</u>			___
Air (outdoors)	___	___	___	___	___		

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated”) as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- _____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- X_____ If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.
- _____ If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

Residences: There are no residential areas at the facility, immediately adjacent to the facility, or above the contaminated groundwater.

Workers: Workers at the maintenance facility are not exposed groundwater or to contaminated subsurface soils that have not been covered or from areas where the cover has been removed for site remediation.

Day care: There are no known day care businesses at the facility or nearby.

Construction: Construction and remediation activities may expose at the facility or nearby may expose workers to contaminants in groundwater and subsurface soils.

Trespassers: Entrance to the facility is controlled by the Port of Longview. While there is a chance that trespassers may gain access to the facility, this institutional control satisfactorily interrupts this pathway.

Recreation: There are no recreational activities at the facility. Recreational use of the nearby waterways is present, but a tidal study performed in the nearby former TWP area in 1995 and 1996 indicated that shallow groundwater flow is towards the north-northeast, away from the Columbia River.

Food: There are no subsistence and other fishing or food collection activities at the facility. There may be some subsistence and other fishing or food collection activities in and along nearby waterways, but a tidal study performed in the nearby former TWP area in 1995 and 1996 indicated that shallow groundwater flow is towards the north-northeast away from the Columbia River.

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

 X If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

 If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

 If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s): There are no ongoing construction or remediation activities occurring the vicinity of the maintenance facility. Any construction or remedial activities will be conducted under a site safety plan to avoid exposure to contaminated subsurface soils and groundwater. This area will included under a deed restriction for the subsurface barrier wall constructed in the former TWP area. Activities that will be prohibited under the deed restriction include subsurface intrusion such as drilling, excavation, and grading activities, and construction of structures that require subsurface foundations.

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

5. Can the “significant” **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be “unacceptable”)-
continue and enter “NO” status code after providing a description of each potentially
“unacceptable” exposure.

_____ If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code

Rationale and Reference(s):

[illegible]

**Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)**

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

☒ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the International Paper facility – Maintenance Area, EPA ID # WAD 010745917, located at 10 International Way, Longview, Washington, under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

☐ NO - "Current Human Exposures" are NOT "Under Control."

☐ IN - More information is needed to make a determination.

Completed by _____ Date _____
Kaia Petersen
Hydrogeologist

Supervisor _____ Date _____
K Seiler
Supervisor, Hazardous Waste and Toxics Reduction Section
Washington State Department of Ecology, Southwest Region

Locations where References may be found:

Central files at the Department of Ecology's Southwest Regional Office, 300 Desmond Drive,
Lacey, Washington

Contact telephone and e-mail numbers

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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.